ABSTRACT OF THE DISCLOSURE

A frequency measuring device can measure the frequency of a noisy power system at high speed. The system voltage is measured at timings obtained by equally dividing one reference-wave period. Voltage vectors are calculated which have their tip ends each consisting of a real part comprising one measured voltage and an imaginary part comprising another voltage measured at timing 90 degrees before the one measured voltage. The length of a cord connecting between tip ends of adjacent voltage vectors is calculated. A voltage root-mean-square value is calculated from voltages measured between two timings apart from each other by the one reference-wave period. Chord lengths obtained between two timings apart from each other by the one reference-wave period are summed. Based on a total of the cord lengths and the voltage root-mean-square value, there is calculated a phase angle between two adjacent voltage vectors, from which the system frequency is calculated.